REMARKS

Independent claim 1 stands rejected under 35 U.S.C. § 102(e) over U.S. Patent Publication 2001/0046873 of *Komatsu*. The method of claim 1 involves determining for a channel, channel prediction terms from both first channel estimation terms derived from first common pilot channel signal and second channel estimation terms derived from second common pilot channel signal. Using the channel prediction terms, control over future transmission patterns of the channel may be enabled. However, *Komatsu* fails to teach or suggest determining channel prediction terms from different channel estimation terms derived from corresponding common pilot channel signals. That is, use of known pilot signals from a pilot channel in the claimed combination is not taught or suggested by *Komatsu*, depriving accurate estimate of the channel parameters. Accordingly, claim 1 is not anticipated by the teachings of *Komatsu*.

There is no suggestion whatsoever in the *Komatsu* reference that a compensation technique for transmission over a channel is based on making sole use of known pilot signals to enable control over future transmission patterns of the channel using the channel prediction terms. Instead, *Komatsu* merely uses estimates of a downward channel on the basis of the received downward signal for predicting a downward channel which is used at the time when the base station is controlled by the control command generated on the basis of the predicted downward channel. In this manner, there is no teaching whatsoever where *Komatsu* uses known pilot signals from a pilot channel to derive channel estimation terms that determine channel prediction terms, enabling control thereof in future transmission patterns. See page 1, column 2, paragraphs 0017-0021, in the *Komatsu* reference. In absence of a precise channel state knowledge, while communicating using transmit diversity in a closed-loop mode between a base station and a mobile user unit, the *Komatsu* reference cannot adequately compensate for certain transmission and signal capture-related distortions.

In the Office Action dated March 31, 2003, the Examiner asserts that estimating a downward channel on the basis of received downward signal for predicting a downward channel controlled by a control command is "determining channel prediction terms from two different channel estimation terms derived each from a corresponding common pilot channel signal" and

thus, reasons that the method of claim 1 is taught by *Komatsu*. However, the Examiner is respectfully requested to consider the specific claim limitations of independent claim 1 involving use of common pilot channel signals to determine channel prediction terms for a channel, enabling control over future transmission patterns of the channel.

The mere fact that a downward channel is predicted by estimating a downward channel on the basis of received downward signal is insufficient to indicate that for a quickly changing transmission channel, between the base station and a mobile user unit, future transmission patterns may be controlled using a known common pilot channel signal capable of providing a precise channel state knowledge that accurately estimates the channel parameters while compensating for antenna transmission in closed loop transmit diversity modes. Accordingly, the *Komatsu* reference fails to anticipate all the claim limitations in claim 1. For at least this reason alone, claim 1 is in condition for allowance. Claims 2-14 are also patentable for at least the reason that these claims depend from an allowable claim.

With regard to claim 15 which stands rejected under 35 U.S.C. § 103(a) over Komatsu (WO 00/72464), the Examiner is requested to show where either the *Komatsu* reference (WO 00/72464) teaches or suggests the claim limitations therein. Specifically, independent claim 15 calls for an apparatus comprising a communication interface and a processor communicatively coupled to the communication interface to determine for a channel, channel prediction terms. For at least the reasons set forth above in the context of claim 1, withdrawal of § 103 rejection of claim 15 and claims dependent therefrom is requested.

Because the rejected claim 16 depends from an allowable claim, for at least this reason alone, claim 16 is patentably distinguishable over the cited reference. However, the Applicant respectfully submits that the Examiner fails to show where *Komatsu* makes use of common pilot channel signals to derive channel estimation terms in order to determine channel prediction terms that control a future transmission state over the channel at specific time. Therefore, a *prima facie* case of obviousness for independent claim 15 and dependent claim 16 is not established. Reconsideration of the § 103 rejection of claims 15 and 16 is requested for the reasons set forth above.

Independent claim 22 stands rejected under 35 U.S.C. § 103(a) over *Komatsu* (WO 00/72464). Based on the arguments presented concerning independent claims 1 and 15, a *prima facie* case of obviousness rejection cannot be made out for claim 22 either. Absent a showing by the Examiner where the *Komatsu* reference (WO 00/72464) teaches or suggests the claim 22 limitations, withdrawal of § 103 rejection of independent claim 22 is respectfully requested. Claims 23-26 are patentable since these claims depend from an allowable claim.

While claim 4 stands rejected under § 102(e) over *Komatsu* (U.S. Patent Publication 2001/0046873), claim 6 is rejected in view of *Komatsu* (WO 00/72464) as being unpatentable under 35 U.S.C. § 103(a). Claim 4 calls for adaptively calculating the channel prediction terms from the first and second channel estimation terms in one or more iterations. *Komatsu* in U.S. Patent Application 2001/0046873, neither teaches nor suggests use of adaptively calculating the channel prediction terms from the first and second channel estimation terms derived from respective common pilot channel signals. Without a specific teaching, *Komatsu* fails to teach or suggest use of adaptive calculations for the channel prediction terms. In this manner, claim 4 is patentably distinguishable over the *Komatsu* reference.

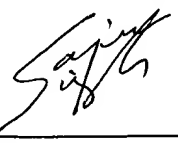
In contrast, claim 6 involves adaptively calculating which includes receiving one or more weighted values associated with one or more antennas of a plurality of antennas where the first common pilot channel signal is from a first antenna of the plurality of antennas and the second common pilot channel signal is from a second antenna of the plurality of antennas. Absent this showing in the *Komatsu* reference (WO 00/72464), the Examiner's assertion that adaptively calculating is somehow obvious for a certain reason, motivation of which is not taught or suggested in the cited reference itself, fails to establish a *prima facie* case of obviousness for claim 6.

Pursuant to the M.P.E.P. rules, the Examiner is respectfully requested to cite a specific reference in which a suggestion or teaching indicates use of adaptive calculations, as claimed in claims 4 and 6. Therefore, claim 4 is not anticipated and claim 6 is not rendered obvious, and both are in condition for allowance. The Examiner is requested to consider all the pending claims.

Figures 4B and 5 have been amended to correct typographical errors. Specifically, in Figure 4B at block 105, "CHANNES" is replaced to read "CHANNELS" and in Figure 5 at block 165, "AMPLITIDE" is changed to read "AMPLITUDE."

In view of these remarks, the application is now in condition for allowance and the Examiner's prompt action in accordance therewith is respectfully requested.

Respectfully submitted,



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